

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for routing and caching packets of data in a multicast network, comprising:

receiving a packet having a header section and a payload section;

inspecting the payload section of the packet in a network core for use in determining how to route the packet to subscribers;

selectively routing the packet based upon the inspecting; ~~and~~

determining a channel corresponding to the packet;

retrieving channel properties for the channel;

determining, from the channel properties, whether the channel is a persistent channel; and

if the channel is a persistent channel, locally caching data from the packet in a core routing node in the network core, wherein the core routing node is located upstream from an edge routing node in a direction moving away from a subscriber machine.

Claim 2 (original): The method of claim 1, further including performing the inspecting step at a router.

Claim 3 (original): The method of claim 1 wherein the inspecting step includes applying a filter to information in the payload section.

Claim 4 (original): The method of claim 3, further including propagating the filter to a router in the network for use in performing the inspecting.

Claim 5 (original): The method of claim 1, further including programming a router in the network for performing the receiving, inspecting, and routing steps.

Claim 6 (original): The method of claim 1 wherein the inspecting step includes inspecting attributes for use in determining how to route the packet.

Claim 7 (original): The method of claim 1, further including time marking the cached data.

Claim 8 (original): The method of claim 1, further including indexing the cached data.

Claim 9 (original): The method of claim 1, further including:

receiving a request for data; and

determining whether the cached data satisfies the request.

Claim 10 (currently amended): The method of claim 1, further including:

locally caching data from the packet at an edge routing node, wherein data cached at the core routing node includes all data cached at the edge routing node and data cached at other locations.

Claim 11 (original): The method of claim 1, further including:

removing the cached data after the expiration of a time frame T.

Claim 12 (currently amended): A network for routing and caching packets of data, comprising:

an edge routing node that receives and routes packets having a header section and a payload section, the edge routing node including:

an intelligent router that routes the received packets, the intelligent router including instructions for:

inspecting the payload section of the packets in a network core for use in determining how to route the packets to subscribers; and

selectively routing the packets based upon the inspecting; and

wherein the network further comprises a core routing node located in the network core and a cache manager located in the core routing node operatively connected to the intelligent router, the cache manager including instructions for:

determining a channel corresponding to each of the packets;

retrieving channel properties for the channels;

determining, from the channel properties, whether each channel is a persistent channel; and

if a channel is a persistent channel, locally caching data from the corresponding packets in a local cache in the core routing node, wherein the core routing node is located upstream from the edge routing node in a direction moving away from a subscriber machine.

Claim 13 (original): The network of claim 12, further comprising:

an agent, operatively connected to the edge routing node, that includes instructions for:

determining location of cached data;

retrieving cached data from the local cache; and

processing retrieved cache data.

Claim 14 (canceled).

Claim 15 (currently amended): The network of claim 12, further comprising:

a plurality of channel manager that provide the channel properties for the a plurality of channels.

Claim 16 (original): The network of claim 12, wherein the cache manager further includes instructions for:

time marking the cached data.

Claim 17 (original): The network of claim 12, wherein the cache manager further includes instructions for:

indexing the cached data.

Claim 18 (original): The network of claim 12, wherein the cache manager further includes instructions for:

receiving a request for data; and

determining whether the cached data satisfies the request.

Claim 19 (currently amended): An apparatus for routing and caching packets of data in a multicast network, the apparatus including a plurality of processors and instructions for:

receiving a packet having a header section and a payload section;

inspecting the payload section of the packet in a network core for use in determining how to route the packet to subscribers;

selectively routing the packet based upon the inspecting; and

determining a channel corresponding to the packet;

retrieving channel properties for the channel;

determining, from the channel properties, whether the channel is a persistent channel; and

if the channel is a persistent channel, locally caching data from the packet in a core routing node in the network core, wherein the core routing node is located upstream from an edge routing node in a direction moving away from a subscriber machine.

Claim 20 (original): The apparatus of claim 19, wherein the plurality of processors include a first processor and a second processor, wherein the first processor executes the inspecting and selectively routing instructions and the second processor executes the locally caching instruction.

Claim 21 (new): The network of claim 12 wherein edge routing node caches data from the packets at the edge routing node and the local cache at the core routing node includes all data cached at the edge routing node and other data cached at other locations in the network.